UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SAMUEL PEARLMAN, ROBERT EARL KREIDER
and RICHARD LAPERITA JR.

Appeal 2007-1770
Application 10/632,289
Technology Center 1700

Decided: August 20, 2007

Before CHUNG K. PAK, CATHERINE Q. TIMM, and
JEFFREY T. SMITH, *Administrative Patent Judges.*

TIMM, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1-8 and 13-20. Claims 9-12, the only other claims pending in the Application, are not rejected and, therefore, not on appeal. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

I. BACKGROUND

The invention relates to a method of manufacturing a light-absorbing matrix for a cathode-ray tube (CRT). The process includes a step of exposing a photoresist layer to light. Appellants generate the light from three locations. Two outer source locations are symmetrically located about an inner source. Claim 1 is illustrative of the invention on appeal:

1. A method of manufacturing a light-absorbing matrix for a cathode-ray tube (CRT), including a plurality of substantially equally sized openings therein, on an inner surface of a faceplate panel of the cathode-ray tube having a color selection electrode spaced from the inner surface of the faceplate panel, the color selection electrode having a plurality of slots, comprising the steps of:

(a) exposing a first photoresist layer formed on the interior surface of the faceplate panel to light through the plurality of slots in the color selection electrode, wherein the light is generated from three source locations including two outer source positions and an inner source position, wherein the two outer source positions are symmetrically located about the inner source position, and wherein the inner source position is a central source position;

(b) removing unexposed portions of the first photoresist layer;

(c) overcoating the interior surface of the faceplate panel with a light-absorbing matrix material;

(d) removing retained portions of the first photoresist layer to form first guardbands of light-absorbing material on the inner surface of the faceplate panel; and,

(e) repeating steps (a) through (d) twice more to form second guardbands of light-absorbing material and third guardbands of light-absorbing material, using a second photoresist layer and a third photoresist

layer, respectively, wherein two source locations of the three source locations for each of the second and third exposure steps are asymmetrically located with respect to the inner source positions.

The Examiner relies on the following prior art references to show unpatentability:

Yamazaki	EP 0,146,226	Jun. 26, 1985
LaPeruta	US 6,013,400	Jan. 11, 2000

The Examiner rejects claims 1-8 and 13-20 under 35 U.S.C. § 103(a) as being unpatentable over LaPeruta in view of Yamazaki.

Appellants organize their arguments under separate headings, each heading listing a group of claims. For each group, Appellants point out that LaPeruta does not describe what is claimed, further point out that LaPeruta uses only two source locations to expose the photoresist, and contend that the claims are, therefore, patentable over LaPeruta. Appellants then contend that Yamazaki teaches away from what is claimed by disclosing that three equidistant source locations be used for exposing the stripes of light absorbing material, and, therefore, the claims are patentable over Yamazaki. Finally, Appellants contend that "since LaPeruta et al. discloses a method of manufacturing a light-absorbing matrix for a cathode ray tube in which each of first, second and third guardbands [of light-absorbing material] are formed using only two source locations for each of first, second and third exposure steps and Yamazaki et al. discloses using three equidistant source locations for exposing the stripes of light absorbing material, the combination of these references does not describe Appellants' method" as recited the claims (Br. 10; see also Br. 14, 18, 22, and 24-25).

For each group of claims, the Examiner contends that the claimed subject matter is suggested by the combination of prior art because LaPeruta

discloses all the steps of the claimed invention except for the use of a third light source location at an inner position and Yamazaki teaches the addition of the required third source, the resulting three-source method being taught by Yamazaki as an improvement of the prior art two source method (Answer 6-10).

II. DISCUSSION

A. Issue

For each group of claims, the dispositive issue on appeal arising from the contentions of Appellants and the Examiner is: Have Appellants shown that the combination of LaPeruta and Yamazaki fails to support the Examiner's prima facie case of obviousness?

We answer that question in the negative.

B. Findings of Fact

A preponderance of the evidence of record supports the following Findings of Facts (FF):

1. LaPeruta describes a method of manufacturing a light-absorbing matrix 23 for a cathode-ray tube (CRT).
2. In the formation of the matrix 23, LaPeruta exposes photoresist to light at two locations, each relative to, and symmetrical about, a central source position, 0 (LaPeruta, col. 2, ll. 53-55; col. 5, l. 63 to col. 6, l. 3; Fig. 7).
3. Yamazaki recognized a problem with the two-light source exposure method: as shown in Figure 3 of Yamazaki, the superposed transmission light intensity distribution 8 is not

optimized, it instead contains a dip in the center of the curve (Yamazaki, p. 2, ll. 28-32).

4. To solve the problem and obtain an optimized light intensity distribution, Yamazaki incorporates a third light source between the two light sources of the two-light source exposure method. The third light source is located at the central position, equidistant from the two other light sources. The two outer light sources are symmetrically located about the inner source position, and are in the locations required by Appellants' claims. (Yamazaki, p. 4, ll. 21-30).

C. Principles of Law

"[T]o reject claims in an application under section 103, an examiner must show an unrebutted prima facie case of obviousness." *In re Kahn*, 441 F.3d 977, 985-86, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006) (emphasis omitted). One of the ways in which a claim's subject matter can be proved obvious is by establishing that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the claims. *KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007). "On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of prima facie obviousness or by rebutting the prima facie case with evidence of secondary indicia of nonobviousness." *Kahn*, 441 F.3d at 985-86, 78 USPQ2d at 1335 (emphasis omitted).

D. Analysis

Applying the preceding legal principles to the Factual Findings in the record of this appeal, we determine that the Examiner has established an

unrebutted prima facie case of obviousness. As evidenced by LaPeruta, a method for forming a light-absorbing matrix following the steps of Appellants' claims, albeit with two light sources instead of three, was known in the art (FF 1-2). As evidenced by Yamazaki, there was a problem, known in the art, with regard to two light source exposure methods such as that taught by LaPeruta: They provided a non-uniform, non-optimal light intensity distribution (FF 3). Yamazaki indicates that the solution to this problem was also known in the art: incorporate a third light source between the two light sources at the central position (FF 4). Therefore, one of ordinary skill in the art armed with the above knowledge would have followed the suggestion of Yamazaki to solve the known problem, i.e., the use of two outer sources symmetrically located about an inner source at the central source position as claimed.

III. CONCLUSION

Appellants have not shown a reversible error on the part of the Examiner in rejecting claims 1-8 and 13-20 over the combination of LaPeruta and Yamazaki.

IV. DECISION

The decision of the Examiner is affirmed.

V. TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal maybe extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

clj

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